

# ● PRINTER RUSH ●

## (PTO ASSISTANCE)

|                                |                                 |                      |
|--------------------------------|---------------------------------|----------------------|
| Application : <u>09/816119</u> | Examiner : <u>Couso</u>         | GAU : <u>2625</u>    |
| From : <u>PAP</u>              | Location : <u>(IDC) FMF FDC</u> | Date : <u>6/7/05</u> |

②

Tracking #: 06096227      Week Date: 4/18/05

| DOC CODE                                | DOC DATE         | MISCELLANEOUS                                |
|---|------------------|--|
| <input type="checkbox"/> 1449           | _____            | <input type="checkbox"/> Continuing Data     |
| <input type="checkbox"/> IDS            | _____            | <input type="checkbox"/> Foreign Priority    |
| <input type="checkbox"/> CLM            | _____            | <input type="checkbox"/> Document Legibility |
| <input type="checkbox"/> IIFW           | _____            | <input type="checkbox"/> Fees                |
| <input type="checkbox"/> SRFW           | _____            | <input type="checkbox"/> Other               |
| <input checked="" type="checkbox"/> DRW | <u>3/26/2001</u> |  |
| <input type="checkbox"/> OATH           | _____            |  |
| <input type="checkbox"/> 312            | _____            |  |
| <input type="checkbox"/> SPEC           | _____            |  |

[RUSH] MESSAGE: Attention Chief Drafts person: Please provide a new set of Drawing sheets most sheets appear to have a stamp mark on top of the page.

Thank you.

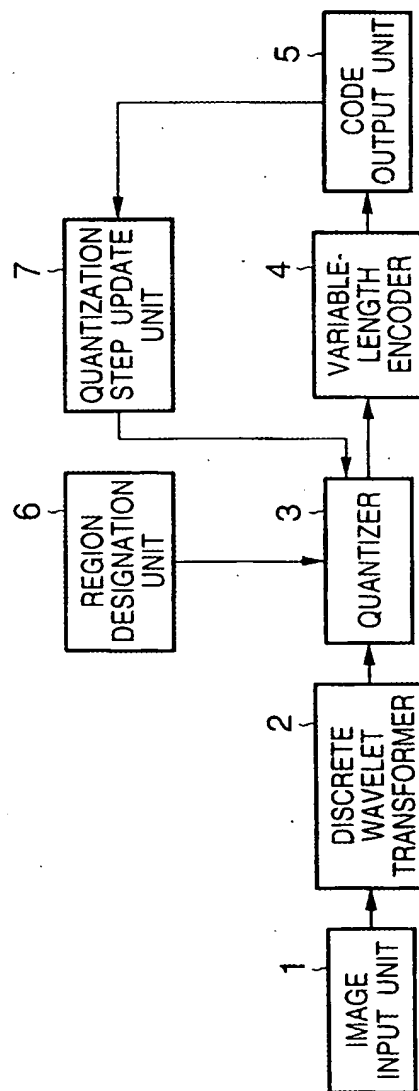
[XRUSH] RESPONSE: \_\_\_\_\_

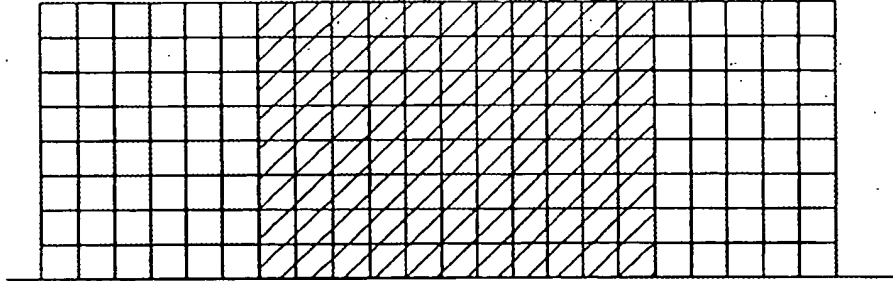
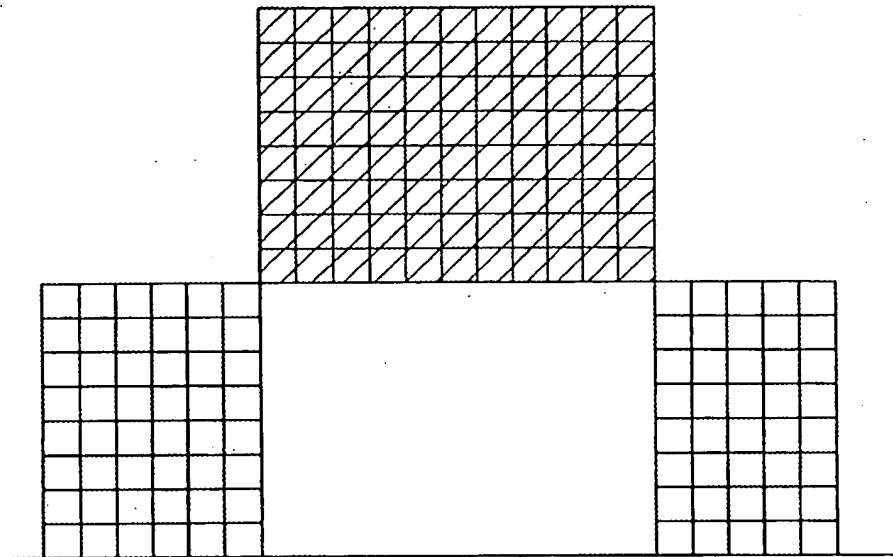
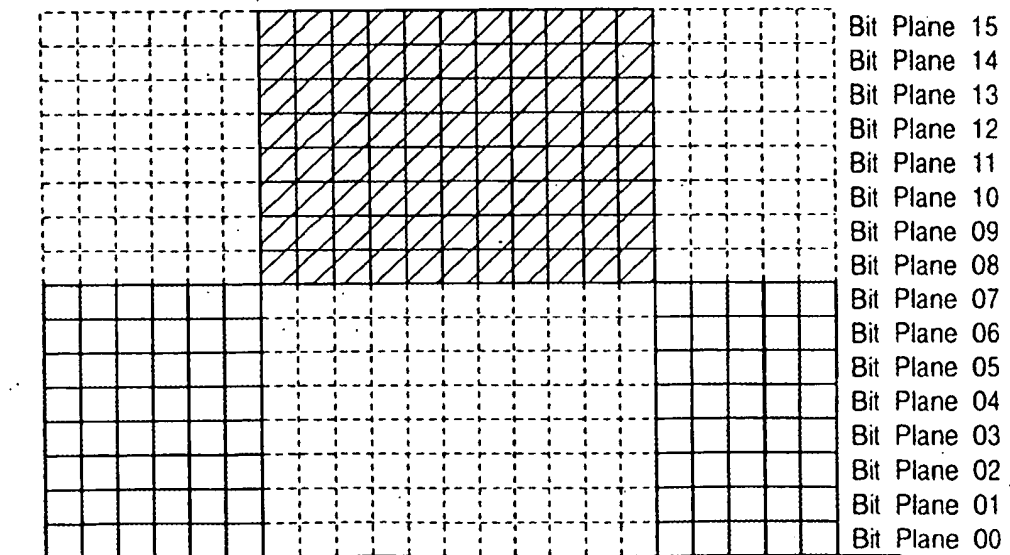
Drawing OK By DRAFTMAN

INITIALS: [Signature]

NOTE: This form will be included as part of the official USPTO record, with the Response document coded as XRUSH.  
REV 10/04

FIG. 1



**FIG. 2A****FIG. 2B****FIG. 2C**

```
graph LR; 100[QUANTIZATION STEP DETECTOR] -- 101 --> 101[CODE INPUT DEVICE]; 101 -- 102 --> 102[NON-ROI REGION CODE SIZE DETECTOR]; 102 -- 103 --> 103[QUANTIZATION STEP CALCULATOR]; 103 -- 104 --> 104[QUANTIZATION STEP OUTPUT DEVICE];
```

The diagram illustrates a system for quantization step detection and calculation. It consists of four main components: a QUANTIZATION STEP DETECTOR (100), a CODE INPUT DEVICE (101), a NON-ROI REGION CODE SIZE DETECTOR (102), a QUANTIZATION STEP CALCULATOR (103), and a QUANTIZATION STEP OUTPUT DEVICE (104). The flow is as follows: The CODE INPUT DEVICE (101) provides input to the QUANTIZATION STEP DETECTOR (100). The QUANTIZATION STEP DETECTOR (100) also provides input to the QUANTIZATION STEP CALCULATOR (103). The CODE INPUT DEVICE (101) also provides input to the NON-ROI REGION CODE SIZE DETECTOR (102). The NON-ROI REGION CODE SIZE DETECTOR (102) provides input to the QUANTIZATION STEP CALCULATOR (103). The QUANTIZATION STEP CALCULATOR (103) provides output to the QUANTIZATION STEP OUTPUT DEVICE (104).

FIG. 4

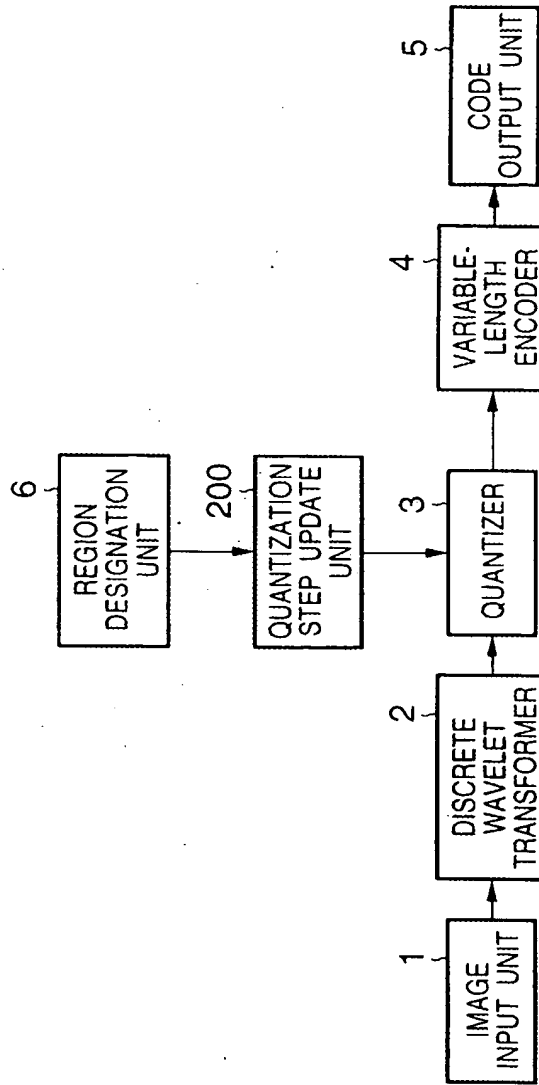
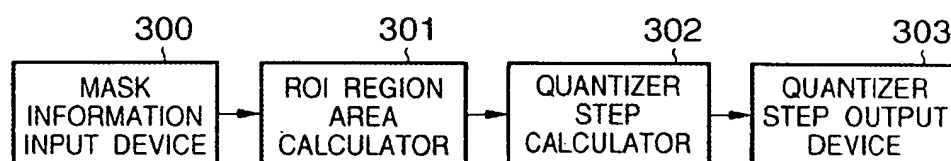
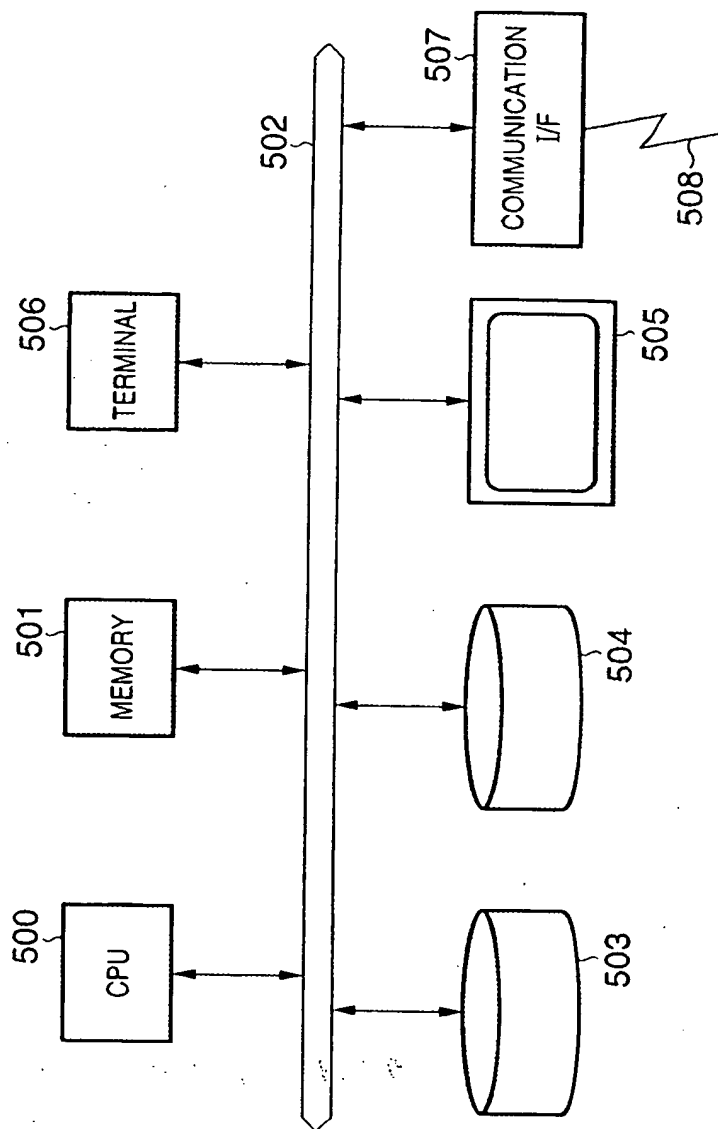


FIG. 5



00016110.032601

FIG. 6

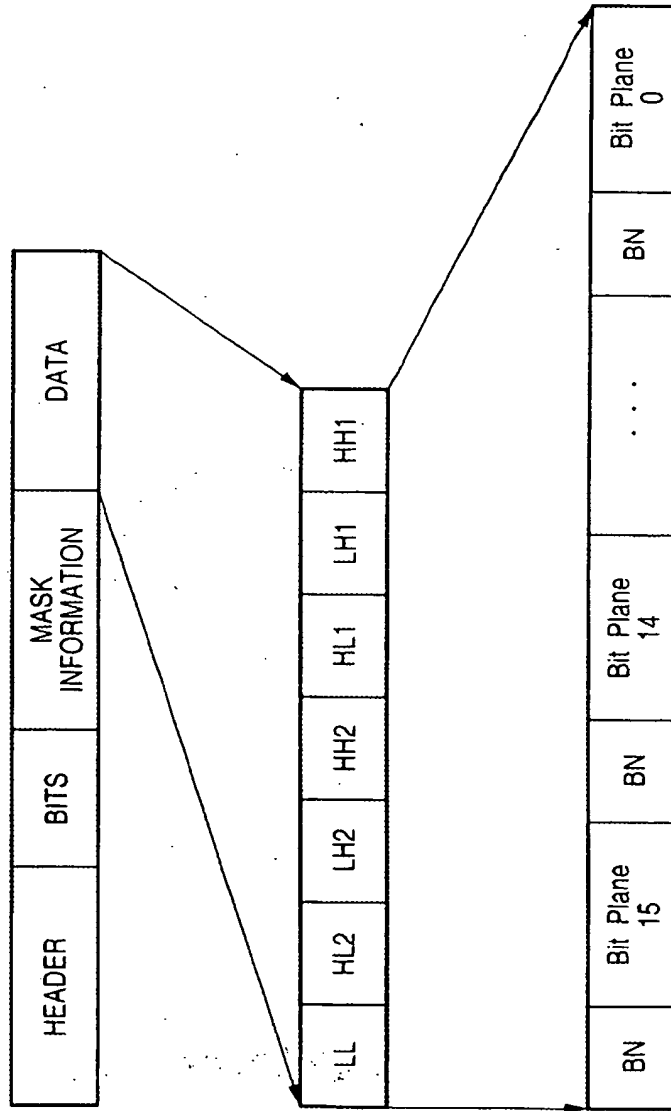


```

graph TD
    START([START]) --> S701[INPUT IMAGE S701]
    S701 --> S702[DISCRETE WAVELET TRANSFORMATION S702]
    S702 --> S703[DESIGNATE ROI  
(GENERATE MASK)  
INFORMATION S703]
    S703 --> S704[QUANTIZATION  
(GENERATE  
QUANTIZATION INDEX) S704]
    S704 --> S705[SHIFT UP S705]
    S705 --> S706[DECOMPOSE INTO  
BIT PLANE S706]
    S706 --> S707[ENCODE USING QP  
(GENERATE BITSTREAM) S707]
    S707 --> S708[DETECT QUANTIZATION  
STEP QP S708]
    S708 --> S709{NON ROI  
BLOCK DETECTED  
? S709}
    S709 -- NO --> S701
    S709 -- YES --> END([END])
  
```

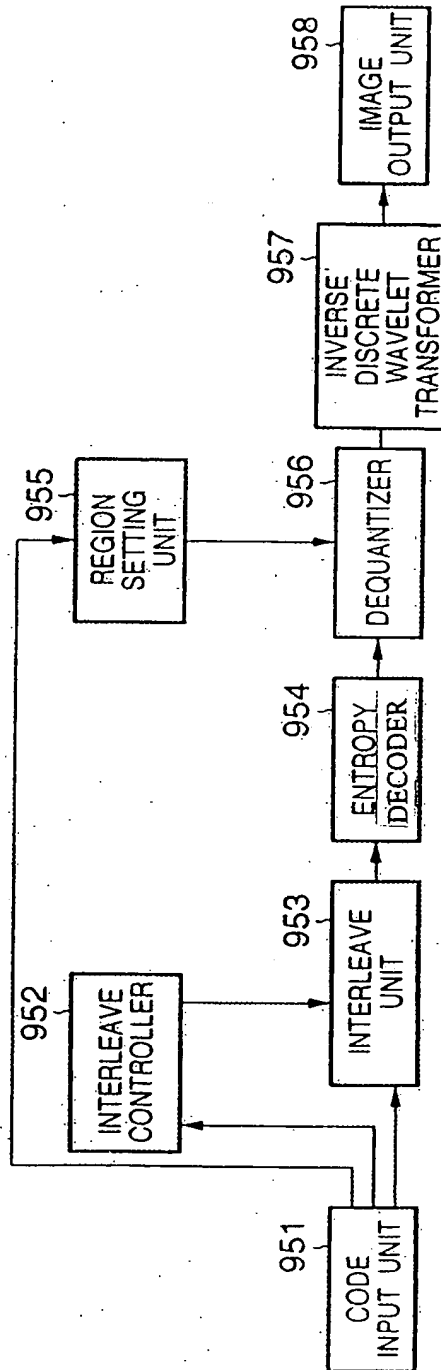


FIG. 8



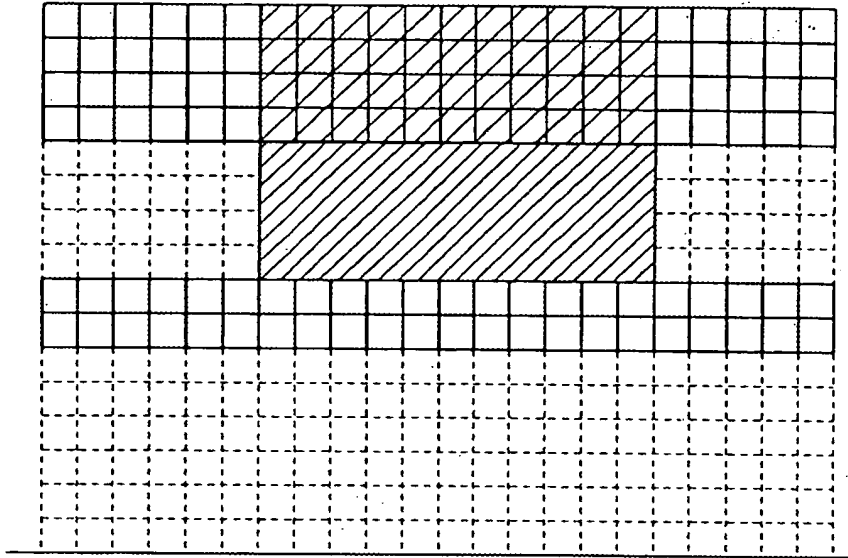
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FIG. 9



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**FIG. 10A**



**FIG. 10B**

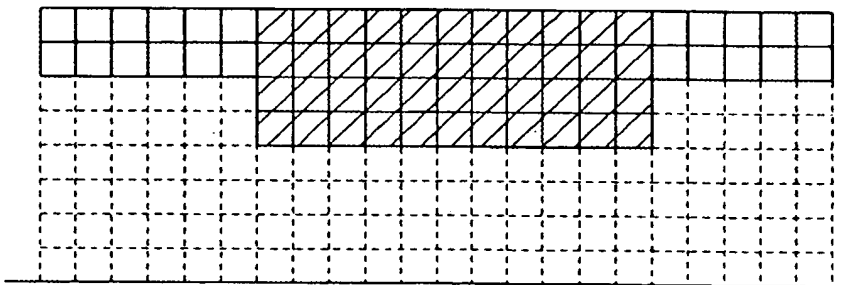
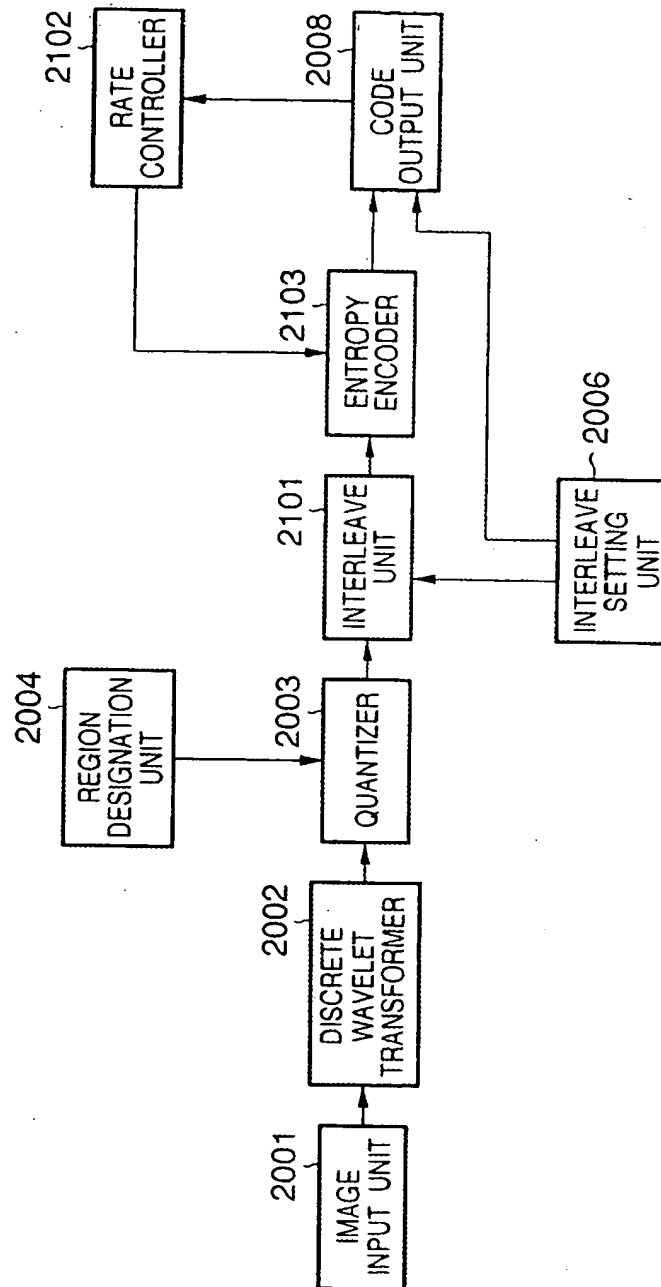


FIG. 11

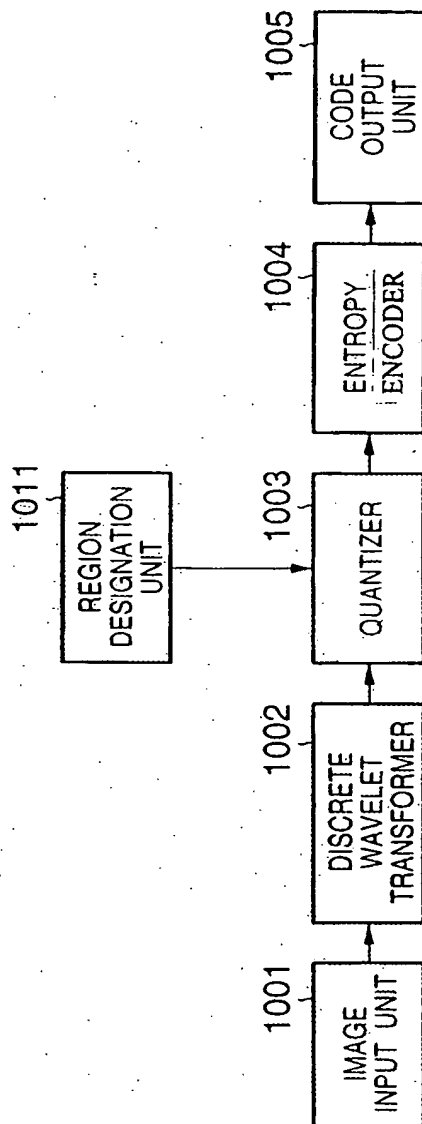




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PRIOR ART

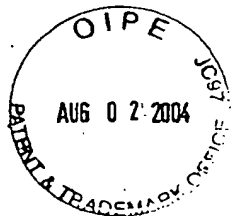
FIG. 12



Inventor: MITSURU MAEDA ET AL.  
Appln. No.: 09/816,119 GAU: 2625  
Filed: March 26, 2001  
Confirmation No.:  
SHEET 3 of 8

Reply to Office Action  
Dated 3/29/04  
Replacement Sheet

FITZPATRICK, CELLA, HARPER & SCINTO  
30 ROCKEFELLER PLAZA  
NEW YORK, NEW YORK 10112-3800  
212/218-2100



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## PRIOR ART

## FIG. 13

|     |     |     |
|-----|-----|-----|
| LL  | HL2 | HL1 |
| LH2 | HH2 |     |
| LH1 |     | HH1 |

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SHEET 4 of 8

Reply to Office Action  
Dated 3/29/04  
Replacement Sheet

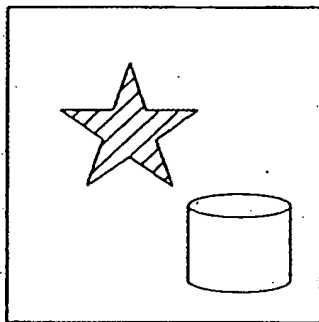
FITZPATRICK, CELLA, HARPER & SCINTO  
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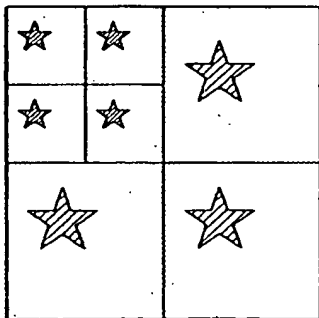
PRIOR ART

FIG. 14A



PRIOR ART

FIG. 14B

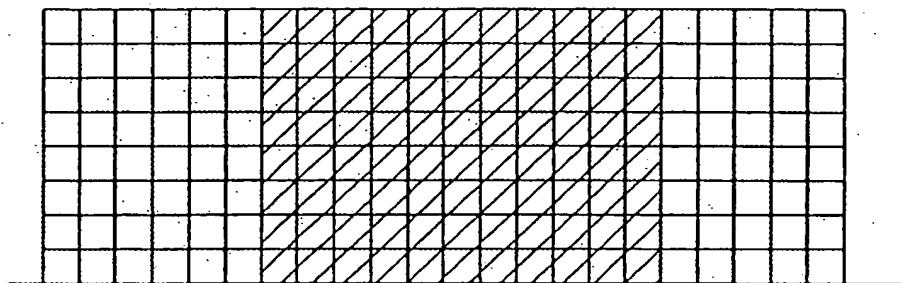




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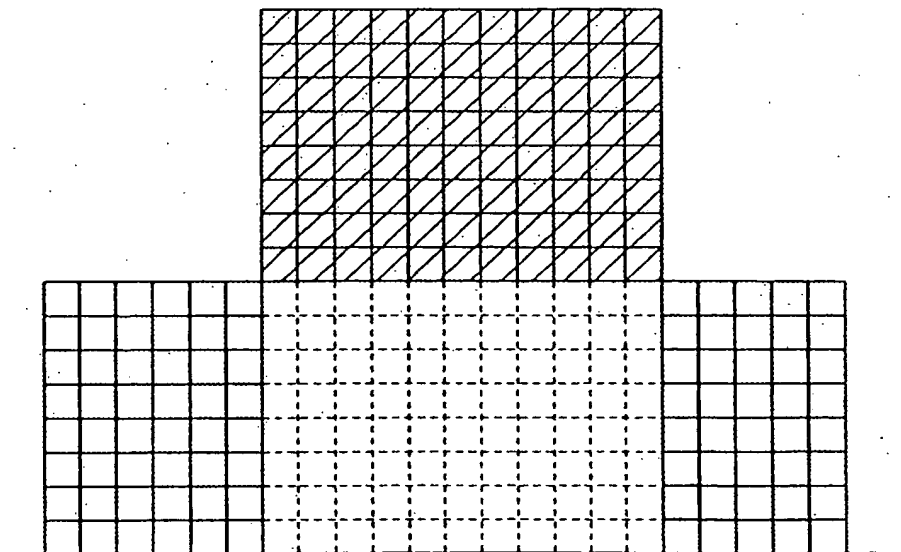
PRIOR ART

**FIG. 15A**



PRIOR ART

**FIG. 15B**



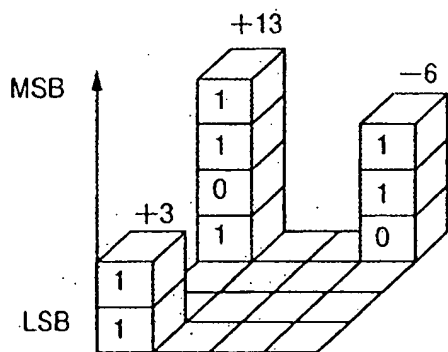




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PRIOR ART

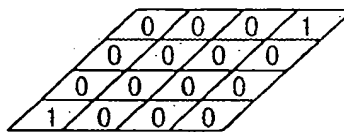
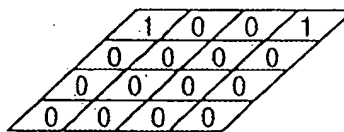
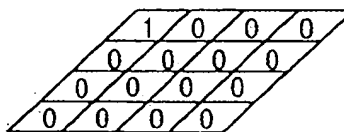
FIG. 16A



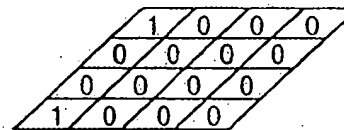
PRIOR ART

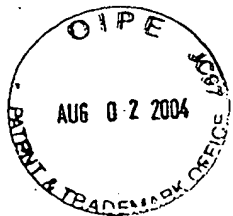
FIG. 16B

MSB



LSB

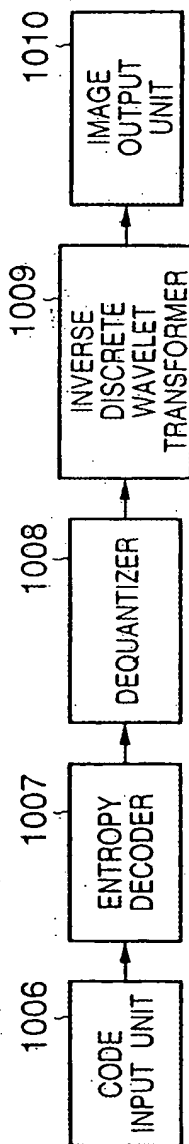




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PRIOR ART

FIG. 17





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PRIOR ART

FIG. 18A



PRIOR ART

FIG. 18B



PRIOR ART

FIG. 18C



FIG. 19

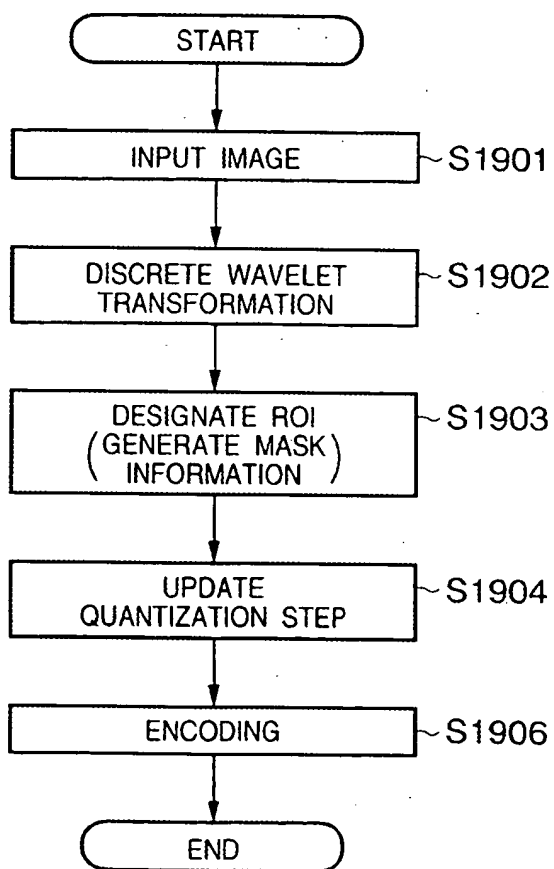


FIG. 20

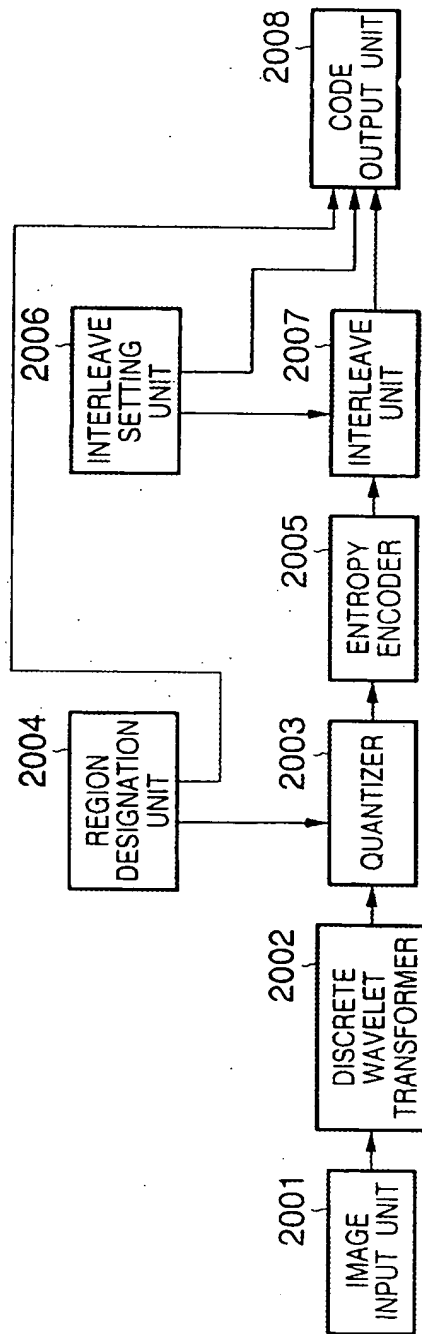


FIG. 21

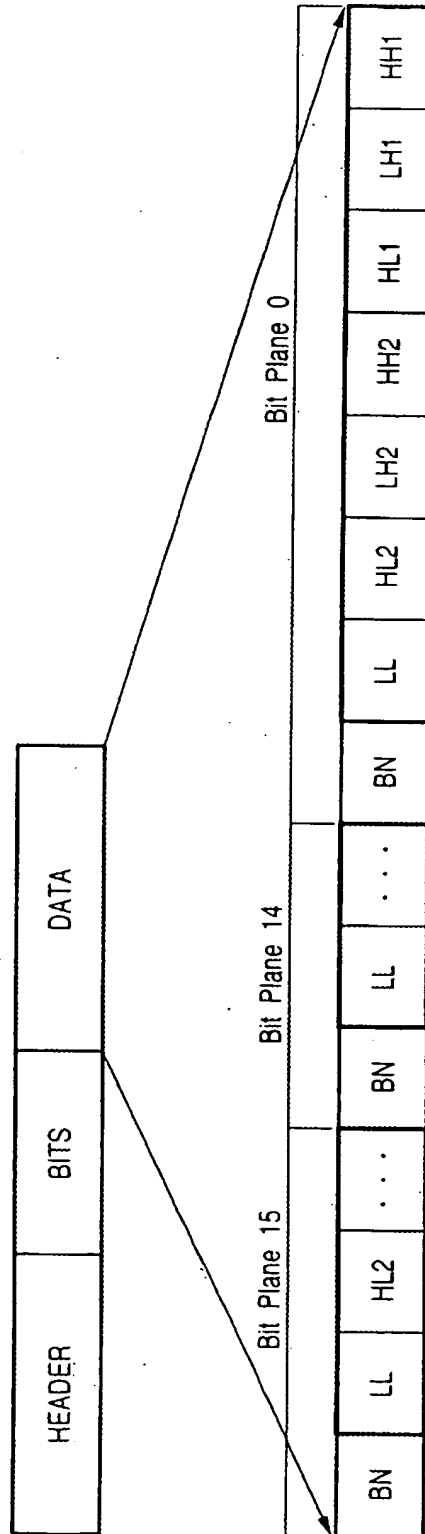


FIG. 22

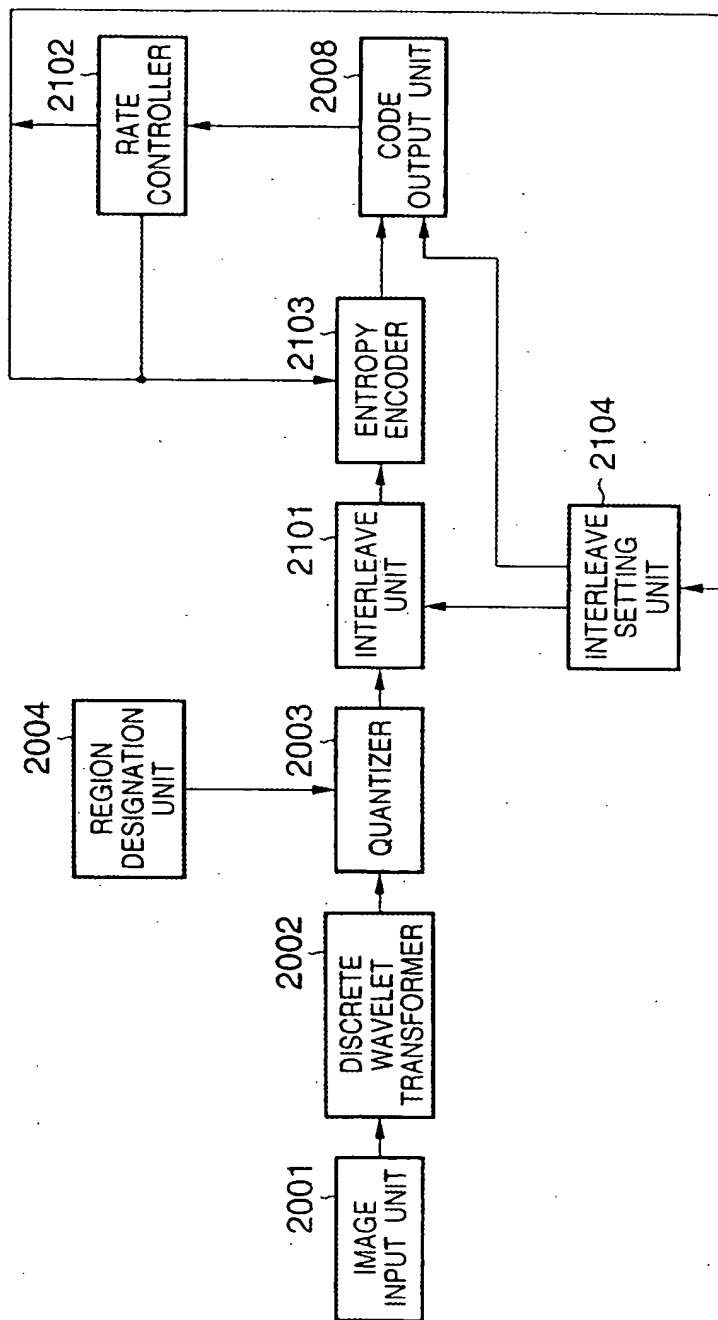
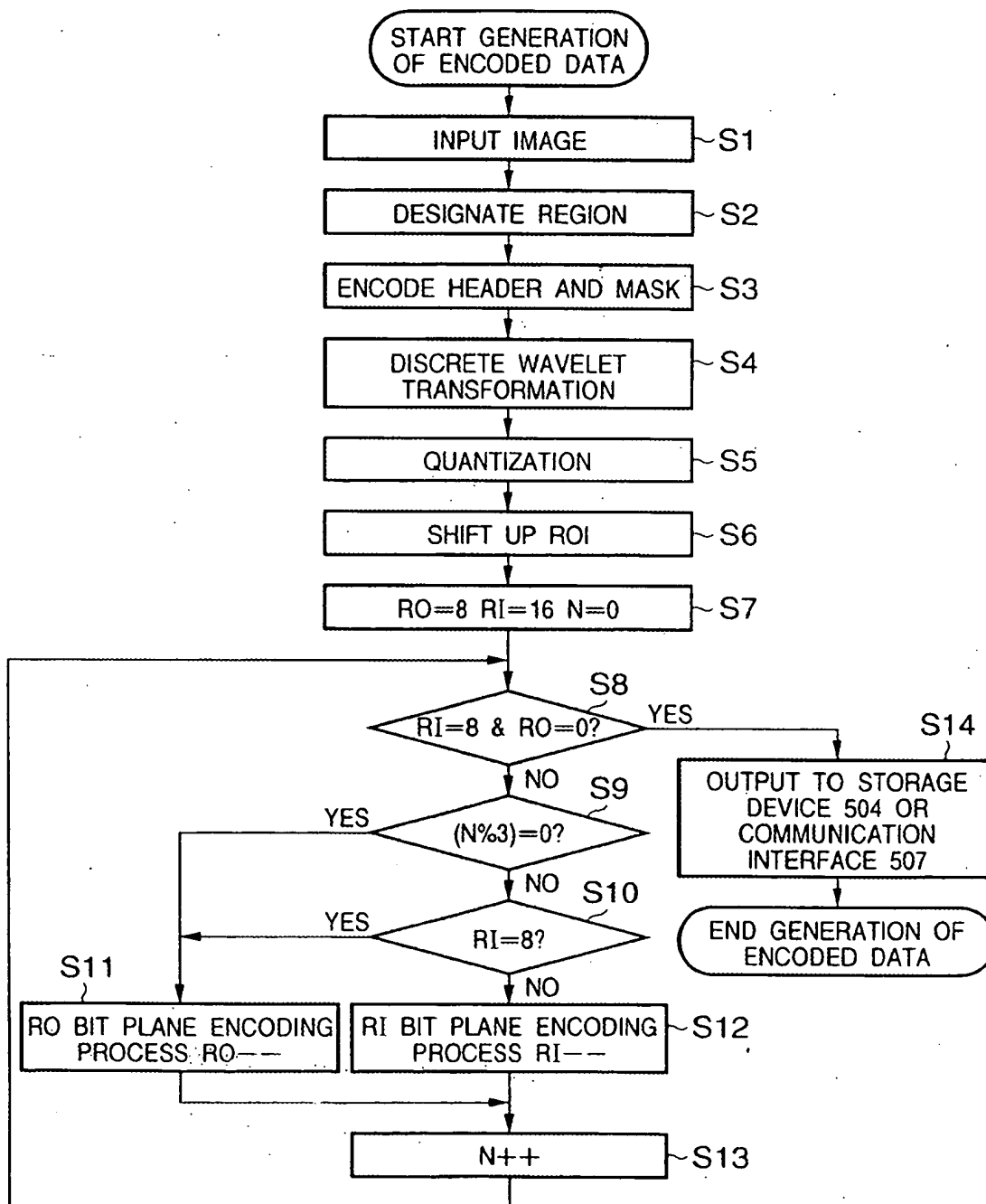


FIG. 23



00015110.032501



FIG. 24

